DOCUMENT RESUME

ED 327 810 CS 010 350

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TITLE Using Computers in Reading Instruction.
INSTITUTION Michigan Reading Association.
PUB DATE 87
NOTE 7p.
PUB TYPE Guides - Non-Classroom Use (055) -- Guides - Classroom Use - Guides (For Teachers) (052) -- Reference Materials - Bibliographies (131)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Uses in Education; Databases; Elementary Secondary Education; *Microcomputers; *Reading Instruction; Word Processing; *Writing Instruction

ABSTRACT

The two components of this document are: (1) a brief position paper; and (2) a related but independent bibliography of references on using computers in reading/writing instruction. The paper presents six recommendations for the intelligent use of computers in the teaching of reading and composition, discussing the guidelines of the International Reading Association, integration within the curriculum, selection of software, access to hardware and software, consultation with parents, and preparation of teachers. The bibliography lists references which may help people keep up to date with the rapid developments in technology and their applications to language arts instruction. It lists 9 journals and newsletters of professional organizations as well as 18 books dealing with issues and practical suggestions for using computers in reading/writing instruction. (SR)

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Using Computers in Reading Instruction

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Using Computers in Reading Instruction

Recognizing the rapid growth in the applications of technology in business, industry, the home and education, the Michigan Reading Association supports the intelligent use of computers in the teaching of reading and composition. Wisely used, microcomputers are powerful instructional tools. Thoughtful applications of technology will facilitate instruction in language arts and will help learners become better readers and writers in a world in which familiarity with technology is essential.

RECOMMENDATIONS

I. Guidelines of the International Reading Association

The "Guidelines for educators on using computers in the schools" prepared by the Computer Technology and Reading Committee of the International Reading Association are endorsed by the Michigan Reading Association (1). Those guidelines should prove helpful to teachers and administrators in the state by providing support from a major professional organization for decisions regarding the use of computers in reading instruction.

II. Integration within the curriculum

Microcomputers have many applications in instruction beyond their use as enrichment or independent activities. The unique capabilities of technology should be integrated within the curriculum to help learners gain proficiency in reading and writing. Students should learn to use word processing in pre-writing, organizing, writing, editing and proofreading papers in all subjects. Database programs, used for the storage and retrieval of information, will enable learners to gain proficiency in locating, selecting, categorizing and organizing information and in using data for drawing conclusions, making generalizations and preparing reports.

Language arts educators should work with colleagues in other disciplines to promote computer use consistent with language arts objectives as applied to all subjects. For example, joint efforts should help learners use word processing and databases as tools for writing better papers in the content areas.

III. Selection of software

Language arts educators should take an active role in evaluating and selecting educational software that takes into account recent research on learning, reading processes and writing processes. As of 1987, few computer programs are available that provide instruction based upon an interactive model of the reading process. However, software programs can be found which have connected discourse rather than discrete lessons out of context. Furthermore, programs which in themselves do not offer sound instructional techniques can be used effectively by teachers who have a good command of effective strategies. In addition, programs which allow students to develop materials and organize information can be used in ways that build upon reading-writing connections and help students learn and apply reading strategies.

The Michigan Reading Association has adopted a set of guidelines that can be used for software evaluation (2) and has prepared a booklet, *Computers in the Reading Program*, which contains brief descriptions of selected software and suggested uses (3).

Briefly, to be consistent with the view of reading as an interactive process and with the objectives adopted by the Michigan State Board of Education in 1986, software programs should contain meaningful content which students will read for purposes that are clear and important to them. The limitations

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and questionable pedagogical soundness of most drill and practice programs must be recognized. Programs should require active reader participation and interaction with materials. Computer activities should emphasize thinking rather than repetitive practice of isolated or fragmented skills. Concerns about software and recommendations for changes or for new programs should be communicated to publishers.

Before making extensive software purchases, teachers should become familiar with the range of computer programs and their potential uses in the reading program. They should know the instructional possibilities of word processing, databases, simulations, adventure programs, problem-solving and other types of software. They should become familiar with wise classroom uses of prewriting programs, spelling checkers and grammar checkers.

Software programs with editorial features for inserting content or for adapting programs to individual student needs should be sought. Educators should know the purposes of utilities programs and authoring systems or languages and should be aware of their potential uses by both teachers and learners. Interested teachers and students should be supported in learning to use languages such as Logo, LogoWriter and Pilot to develop language arts programs.

If record-keeping and management programs are to be used, teachers should expect that those that are selected or developed will give helpful diagnostic information about learners' reading interests, book and library habits, and applications of reading strategies. Teachers should be actively involved in determining whether or not management systems designed to accompany reading programs record information that is consistent with objectives derived from the new philosophy of reading and the research on comprehension.

IV. Access to hardware and software

All learners--whether in pre-school, elementary, middle school, high school, adult education, job training or retraining--should have equal access to microcomputers, printers and appropriate software that will contribute to the development and applications of reading and writing abilities. Learning sites in economically disadvantaged areas should have as much hardware and software available as in wealthier communities. Special education students should have meaningful software programs and equal time for using computers for instructional purposes. Educators should alleviate conditions that might deter girls and women from choosing computer activities or from having opportunities to use the equipment.

Hardware and software, including printers, should be available in elementary and secondary schools and in adult education programs in sufficient quantities for all students to have adequate machine time for meaningful learning experiences in all appropriate curricular areas. Sufficient funds must be provided for purchase of software and supplies, for access to national data banks, and for maintenance and replacement of equipment.

V. Consultation with parents

Teachers should be able to consult with interested parents about microcomputer applications that can be used at home to further the reading literacy and computer literacy of the family. Although rapid developments in technology make it difficult to keep abreast of specific computer hardware and peripherals, teachers can provide advice on the types of software programs that are most beneficial and appropriate for learners in a home setting. Teachers should be prepared to recommend word processing, simulations, adventure programs and other instructional programs in which reading is viewed as a communication process.

VI. Preparation of teachers

The pre-service preparation of reading and language arts teachers should include training in the operation of microcomputers, the selection and uses of software and the integration of computer activities within the curriculum. Standards should be established on the nature and depth of this preparation.

Similar standards should be established for the in-service preparation of reading and language arts teachers in the use of current technology and in keeping abreast of ongoing technological developments that have implications for education. These standards should include attention to locating and evaluating research on the uses of computers in reading and writing instruction and to carrying out action research in various learning environments--homes, schools and the worksite.

Teacher preparation institutions should provide instruction on the selection of software and the use of technology within the instructional program. Appropriate college methods courses should address the topic of meaningful uses of technology in reading and language arts instruction. Faculty in colleges and universities should be involved with educators in local educational environments--including schools, businesses and industries--in implementing programs and in conducting research on effective uses of technology for promoting literacy at all ages.

Footnotes

1. "Guidelines for educators on using computers in the schools" were prepared by the Computer Technology and Reading Committee of the International Reading Association in the spring of 1984. They are published in the *Journal of Reading*, October 1984, pages 63-65, and in *The Reading Teacher*, October 1984, pages 80-82.

2. Single copies of the Michigan Reading Association's "Guidelines for Evaluating Reading Software" may be obtained by sending $.10 and a self-addressed business envelope, stamped with first class postage for one ounce, to Michigan Reading Association, P.O. Box 7509, Grand Rapids, Michigan 49510. Copies may also be purchase in bulk, at $10.00 per 100, prepaid. Permission is granted for duplication of the guidelines for local school district use provided credit is given to the Michigan Reading Association. The guidelines have been included within the booklet on *Computers in the Reading Program*, described in footnote 3.

3. *Computers in the Reading Program* is available for $6.00 ($9.00 out of state) from the Michigan Reading Association, P.O. Box 7509, Grand Rapids, Michigan 49510. All orders must be prepaid by check or money order.

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The original position paper was prepared by the 1984-85 ad hoc Computer Literacy Committee of the Michigan Reading Association. Committee members: Dr. Martha Irwin, Eastern Michigan University and Dr. Marjorie Lipson, Eastern Michigan University. MRA President 1984-85: Dr. Karen Urbschat, Wayne County Intermediate School District. The position paper was revised in 1987 by the ad hoc Technology and Reading Committee of the Michigan Reading Association. Committee members: Dr. Martha Irwin, Dr. Kent Layton, Dr. Anne Porter, Blair Simmons and Deborah Young. MRA President 1987-88: Gwen O Donnell.

References on Computers and Reading/Writing Instruction

Compiled by Martha Irwin

How can one keep up-to-date with the rapid developments in technology and their applications to language arts instruction? Listed below are journals and newsletters of professional organizations, followed by a sampling of books dealing with issues and practical suggestions for using computers in reading/writing instruction. In addition, many excellent articles have been written which are not listed here; such materials can be located easily through an ERIC database search at your nearest university -- using a computer and a CD-ROM disk!

Journals and Newsletters

Adult Literacy & Technology. A quarterly newsletter of the Adult Literacy and Technology Project, Penn State University, 248 Calder Way, Suite 307, University Park, PA 16801. The regional technology consultant for the project is Deborah Young, 7164 Camelot Drive, Canton, MI 48187.

"Bits and Bytes about Language Arts." A regular column in **News and Views about Reading**, the newsletter of the Michigan Reading Association, P.O. Box 7509, Grand Rapids, MI 49510.

"Computers and the Language Arts." A column in **The Computing Teacher**, the journal of the International Council for Computers in Education (ICCE), University or Oregon, 1787 Agate Street, Eugene, OR 94703-9905.

"Computer Software Reviews" in **The Journal of Reading** and **The Reading Teacher**, publications of the International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, DE 19714-8139.

Michigan Technology Quarterly. A newsletter published four times a year by Oakland Schools, Technology Information Services Center, 2100 Pontiac Lake Road, Pontiac, MI 48054 in cooperation with the Michigan Department of Education. The newsletter is mailed to every building in the state. It is a non-membership publication, available free of charge, to any interested educator or administrator in Michigan.

Micro Missive. A newsletter distributed to members of the Microcomputer Special Interest Group (MicroSIG) of the International Reading Association. For information, write to the editor: Dr. Kent Layton, Department of Teacher Education, 234 Boone Hall, Ypsilanti, MI 48197.

"Online." A column in **Language Arts**, a journal for elementary teachers published by the National Council of Teachers of English, 1111 Kenyon Road, Urbana, IL 61801.

"The Printout." A regular column in **The Reading Teacher**, a journal for elementary teachers published by the International Reading Association, 800 Barksdale Road, P.O. Box 8139, Newark, DE 19714-8139.

The MACUL Newsletter. The newsletter of the Michigan Association for Computer Users in Learning, P.O. Box 628, Westland, MI 48185.

Books

Balajthy, E. (1989). **Computer and reading: Lessons from the past and the technologies of the future**. Englewood Cliffs, NJ: Prentice-Hall.

Balajthy, E. (1986). **Microcomputers in reading and language arts**. Englewood Cliffs, NJ: Prentice-Hall.

Blanchard, J., & Mason, G. (Eds.) (1987). **The computer in reading and language arts**. New York: The Haworth Press.

Blanchard, J.S., Mason, G.E., & Daniel, D. (1987). **Computer applications in reading**. Third edition. Newark, DE: International Reading Association.

Chandler, D. (1984). **Young learners and the microcomputer**. Philadelphia: Open University Press.

Chandler, D., & Marcus, S. (Eds.). (1985). **Computers and literacy**. Philadelphia: Open University Press.

Daiutee, C. (1985). **Writing and computers**. Reading, MA: Addison-Wesley Publishing Company.

Hoot, J.L. (1986). **Computers in early childhood education: Issues and practices**. Englewood Cliffs, NJ: Prentice-Hall.

Knapp, L.R. (1986). **The word processor and the writing teacher**. Englewood Cliffs, NJ: Prentice-Hall.

Making the literature, writing, word processing connection: The best of The Writing Notebook, 1983-1987. Mendocino, CA: Creative Word Processing in the Classroom.

Mason, G.E., Blanchard, J.S., & Daniel, D.B. (1987) **Computer applications in reading**. Third edition. Newark, DE: International Reading Association.

Reinking, D. (Ed.). (1987). **Reading and computers: Issues for theory and practice**. New York: Teachers College.

Rodrigues, D., & Rodrigues, R.J. (1986). **Teaching writing with a word processor, grades 7-13.** Urbana, IL: Eric Clearinghouse on Reading and Communication Skills, National Council of Teachers of English.

Schwartz, H.J. (1985). **Interactive writing: Composing with a word processor**. NY: Holt, Rinehart and Winston.

Strickland, D.S., Feeley, J., & Wepner, S. (1987). **Using computers in the teaching of reading**. New York: Teachers College Press.

Technology and Reading Committee. (1986). **Computers in the reading program**. Grand Rapids, MI: Michigan Reading Association.

Wresch, W. (Eds.). (1984). **The computer in composition instruction: A writer's tool**. Urbana, IL: National Council of Teachers of English.

Wresch, W. (1987). **A practical guide to computer uses in the English/language arts classroom**. Englewood Cliffs, NJ: Prentice-Hall.

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